APPENDIX B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jeffrey A. Anderson Art Unit : 3635

Serial No. : 10/633,694 Examiner : Jeanette E. Chapman

Filed: August 5, 2003

Title : METAL FRAMING MEMBER AND METHOD OF MANUFACTURE

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

DECLARATION OF FRANCIS J. ROOST UNDER 37 C.F.R. §1.132

I, Francis J. Roost declare:

- 1. I am a retired (unlicensed) Certified Public Accountant (CPA). I have been asked to comment on the potential commercial value of the design as presented by the Provisional Application No. 60/588,798 filed on July 19, 2004 which is also presented in U.S. Application Serial No. 10/633,694, also published as US 2004-0093822 A1, which claims priority to that provisional application.
- 2. First, based on a 2002 study (best available) for non-residential construction, interior walls, published by the Steel Framing Alliance, there are 2.8 billion lineal feet of product made annually, that could be affected. A copy of the study is attached as Exhibit A. See page 13. The Reported Tonnage of product have been converted to lineal feet in exhibit B.

Second, the design concept described in the above-mentioned provisional and utility applications reduces usage of material by 37% as compared to the existing commercial product. Current interior wall technology uses 0.331 lb/ft versus 0.209 lb/ft with this new concept. The savings which result is 0.122 lb/ft. A copy of the calculations is Exhibit C

Third, according to the 9/6/2007 edition of the American Metal Market, pricing on Galvanized Steel used to make this product is currently is \$39,00 per hundredweight or \$0,394b.. A copy of the pricing is attached as Exhibit D.

Applicant : Jeffrey A. Ande Attorne Docket No.: 14917,0002

Serial No. : 10 633,694 Filed : August 5, 2003

Page : 2 of 5

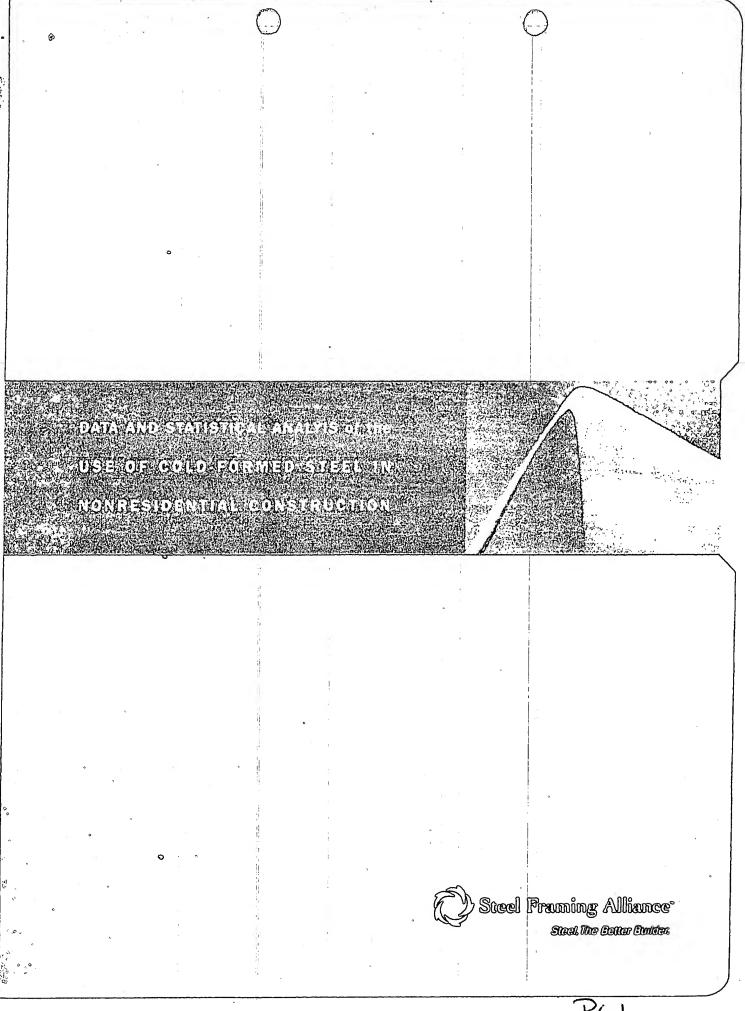
3. If this design was incorporated into 100% of the available market, the annual market value through material savings alone would be \$133,000,000,00. Calculations are Exhibit E. These calculations do not include Exterior walls, Floors and Roofs, which per the inventor, are also potential uses of this patent

4. All statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Date: $\int_{S_{f}} \frac{df}{dt} \frac{15.2 Cef}{1}$

Francis J. Roost

EXHIBIT A



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SXHIBIT A

Seel framing, a concept introduced in the 1920s and 1930s, in now a common sight in commercial, institutional, and industrial projects around the world. A variety of factors in the market place, including heightened requirements for non-combustible assemblies, environmental advantages, and design flexibility, promise to increase the specification and use of steel framing. This growth is destined to continue as other critical elements fall into place, including the establishment and proliferation of codes and standards, introduction of new tools and construction techniques, maturation of the truss and components industry, and an expanding ranks of knowledgeable and experienced framers and engineers.

As the use of steel framing has grown, so has the need to assess where that growth is taking place so that manufacturers, suppliers, and builders can better align themselves to meet current needs. The purpose of this study was to develop a statistical analysis of the nonresidential steel framing market and the industry's current participation in a broad spectrum of applications and categories of structures. Through this report, it is our intention that the user will gain a better, more precise understanding of where steel framing currently enjoys significant market share, and where there are opportunities for growth.



Collection of Data

This report was developed by a team of individuals representing a broad range of disciplines within the steel framing industry, including builders, component and panel fabricators, steel producers, and stud manufacturers. Data was collected from a variety of sources, including F.W. Dodge, R.S. Means, the Steel Stud Manufacturers Association, (SSMA), and FMI.

The data from F.W. Dodge provided the number of units and total square footage constructed for various nonresidential market segments, which included Stores and Food Service, Warehouses, Office and Bank Buildings, Hotels & Motels, Garages & Service Stations, Manufacturing Plants, Laboratories, Schools & Colleges, Libraries & Museums, Dormitories, Hospital & Health Treatment, Public Buildings, Religious, Amusement, Apartments/Assisted Living, and Miscellaneous. The data from R.S. Means provided typical building characteristics for each market segment, which included the number of stories, wall height and gross floor area. Additional characteristics for the representative buildings were derived, including the footprint area, length and width.

For each component (i.e., exterior walls, interior walls, floors and roofs) and for each representative building, typical framing designs were established and material intensities (lbs/sf) determined. These material intensities were multiplied by the square footage of construction from F.W. Dodge to compute the market opportunity (tons) for each market segment.

Overall market share was computed by dividing industry shipments (tons) by the market opportunity. Industry shipments were as reported by SSMA with an adjustment for estimated non-SSMA member shipments. Market share for interior walls was determined by considering only the industry shipments of 18, 27 and 30-mil thickness material. Market share for exterior walls was determined from an extensive survey that had been conducted in 1997 by FMI for the American Iron & Steel Institute (AISI). Market share for floor and roof framing represented the balance of industry shipments, excluding walls, divided by the markét opportunity for these components.

Total Market Opportunity

In defining the potential market demand for cold-formed steel framing, the entire area within a structure where framing members could be used was totaled and translated into tons using the method as described above. Not included in this calculation were areas within specific types of structures that typically would not be available to steel framing. For example, only elevated floor area was considered in determining the floor framing opportunity, as it is not envisioned that cold-formed steel would replace slab-on-grade construction.

If steel framing were used in all the available nonresidential applications, it would require shipments of 4,464,258 tons per year. By far, the largest segment would be Apartment/ Assisted Living at 1,055,193 tons as these are typically multi-story structures with many interior walls, and large roof systems. Warehouses, Stores/Food Service, Office/Bank Buildings, and Schools/Colleges would also consume significant volumes of steel studs.

Roofs are the area within the structure where there is the greatest potential demand for steel studs at 1,432,569 tons per year. The Warehouses segment represents the largest possible demand at 317,635 tons per year, followed by Stores/Foodservice at 207,406 tons per year.

The second largest potential application for steel framing is Exterior Walls at 1,267,953 tons per year. Apartments/Assisted Living category represents the largest possible demand at 185,350 tons per year. Other Dodge categories with the largest potential demand include Stores/Food Service, Warehouses, and Garages/Service Stations that typically are designed as large perimeters with few interior partitions.

At 1,224,291 tons per year, the Interior Walls segment represents nearly as much potential as Exterior Walls. Again, the Apartments/Assisted Living category is the largest by far at 495,385 tons per year. Office/Bank Buildings, another category typified by many interior spaces, is second largest at 228,205 tons per year.

Not surprisingly, Floors is the nonresidential segment with the smallest potential demand for steel framing materials at 540,445 tons per year. This relatively small potential is due to the fact that nearly half of Dodge structural categories typically utilize slab-on-grade construction.



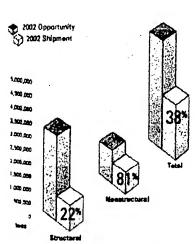
Current Market Share

The estimated size of the current (2002) market for nonresidential steel framing is determined by applying a rationalized percentage (see section I.) to the total market opportunity described (Section II).

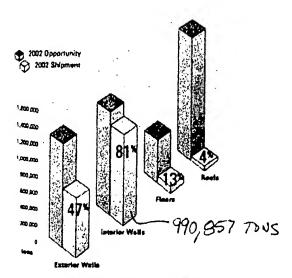
Using this method, the total amount of steel framing shipped to all nonresidential segments was 1,716,911 tons in 2002. Of the four main applications, it is not surprising that Interior Walls represents the largest single destination for steel studs at 990,857 tons in 2002. This is estimated to represent 81.4 percent share of the available market. Using the FMI study (Section I), Exterior Walls had obtained 47 percent share of the available market. Floors and Roofs are shown to have captured a very small portion of the available market at 13 percent and 4 percent, respectively.

Market Share by Product - 2002

Market Share by Application - 2002



Nonresidential Steel Framing Market



Nonresidential Steel Framing Market

Segments of Opportunity

This study provides the reader with a starting point for developing a better understanding of "opportunity", which could be defined as the difference between actual and potential participation.

A partial analysis might show the following:

Warehouses

Current Participation 97,933	
31,330	tons Opportunity for Growth

Schools / Colleges

	345,443 tons Opportunity for Growth
Current Participation	120,383 tons
Total Opportunity	465,826 tons
	100 March 100 Ma

Dormitories

Total Opportunity	61,786 tons
Current Participation	30.272 tons
	31,514 tons Opportunity for Growth

Other considerations could also include those factors that may weigh in favor of the use of steel framing, such as increasing requirements for non-combustible construction, and economic conditions that may stimulate or restrain types of structures within the nonresidential construction industry. Those considerations are beyond the scope of this document.

Market Data and Building Characteristics

		FWDodge Market Data	ata			Typical	Brillian					
	Dodge Segment	Means Class	1,000 SF	No. of Units	Ava C	Charles	9	olidi decie	System Line in the second of t	RS E	ans	
~	Stores and Food Service	Restaurant, Fast Food			5	Signes	SURIES WAR HEIGHT	Gross SF	Footprint	Width	Width Length	LF Wall
	Stare, Convenience		·			H	10	4000	4000	53	75	257
	Average	es Ma				н	12	4000	4000	53	75	257
2	Warehouses		252,865	20,449	12,366	#	11	4000	4000	53	75	
3	Office and Bank Buildings	Wateriouse Office 24 St	195.819	6,617	29,593		24	30000	30000	145	206	703
•	Bank	Cince, 4.4 Stary				3	21	20000	6667	69	97	995
	Average	æ.	150 450	6		н	14	4100	4100	54	92	560 560
4	Hotels & Motels	Motel, 2-3 Story	20,000	73.100	6.513	2	13	12050	5383	61	87	627
3	Garages & Service Stations	Garage, Repair	09.55	1.121	35,144	e	6	49000	16333	101	152	1557
9	Garage, Service Station					H	14	10000	10000	2	119	406
	Average	Đ	4			ᆏ	12	1400	1400	31	. 54	152
9	Manufacturing Plants		156,915	4,887	32,109	+1	13	5700	5700	3	ć	020
-	CHIEF LIGHTS	ractory	52,180	1,972	26,460	-	8	out of	2000	8	70	617
- 1	Caboratories	Medical Office, 1 Story	16.061	128	22,062	.	3	3	30000	145	506	703
80	Schools & Colleges	School, Jr. High	227.850	11 757	790'77	1	10	7000	7000	70	100	340
6	Libraries & Museums	Library	12.881	161,11	19.380	2	77	110000	55000	197	279 1	1905
10 Q	10 Dormitories	Apartment, 1-3 Story	22 034	7977	10.898	~	. 14	22000	11000	88	125	852
11 #	11 Hospital & Health Treatment	Medical Office 2 Special	110,65	/21	31,999	3	10	22500	7500	73	103	1055
12 R	12 Public Buildings	Town Hall, 2-3 Story	36 564	7,480	12,909	2	10	7000	3500	8	02	480
13 Re	13 Religious	Church	51 146	2,527	13,917	Е	12	18000	9009	65	92	944
14 An	14 Amusement	Movie Theatre	70.052	290,4	11.258	1	24	17000	17000	110	155	529
15 Ap	15 Apartments/Assisted Living	Apartment 1-3 Sport	760.03	-	10,145	-	20	12000	12000	92	130	445
16 Mi	Misc.	Average	394,011		13,401	ო	10	22500	7500	73	103	1055
Į.	Totals	290	24.627		13,170	2	14	24583	13657	88		040
			1,800,451	125,360	14,362							
									i			

Assumptions

Means building models are similar to Dodge classifications.
 Widths and lengths are assumed values based on rectangular shaped buildings.
 If of Wall is building perimeter

2.01 2.68 3.33

> 133.76 166.32

600516243 600S162-54

1.52 1.89

6005162-43 600S162-54

Exterior Walls

Tons of steel in each Dodge Classification based on 100% steel exterior walls

ć			1				Stee	Steel in Wall		
9	coage segment	Means Class	Stories	Wall Height	L Wall	3505162.43	07 0043009			
1 S	Stores and Food Service	Restaurant Fact Food				C#-7015000	0005162-43	600S162.54	Total (LBS)	Total (Tons)
		restantali, rest rood	-	10	257	5.153	0	0		
		Store, Convenience	#	77	257	6,184	0	c		
	Average	ū	, mi	11	257	9	()		
7	Warehouses	Warehouse	-	-		2,000	0	0	5,668	2.83
0	Office and Bank Building	Over 5 4 5	7	47	703	0	0	56,153	56,153	28.08
	c9	Gilde, 24 Story	m	ជ	995	0	31,933	c		
		Bank	+ 1	14	560	0	c	, ,		
	Average	Đ	7	13	627	C	, (14.103		
4 X	Hotels & Motels	Motel, 2-3 Story	6				15,967	6,055	22.021	11.01
2	Garages & Service Stations	Garage Danel.	,	6	1,557	0	37,487	Ó	37,487	18.74
		varage, nepar	- 1	14	406	0	0	18,912		
		Garage, Service Station	H	12	152	0	4,878	0		
1	age law		 1	13	279	O	2 430	6		
Σ O	Manufacturing Plants	Factory	1	8	702		66.1.3	9,400	11.895	5.95
الم	Laboratories	Medical Office, 1 Story	-	•		0	0	46,794	46,794	23.40
ω ω	Schools & Colleges		, ,	2 5	2	6,817	0	0	6.817	3.41
6	Libraries & Museums	- A	,	7	1.905	0	61,147	0	61.147	30.57
10		(200	7	14	852	0	c	20.5.70	25.00	
2	Dormitories	Apartment, 1-3 Story	3	9	1 066			39,670	39,670	19.83
11 14	11 Hospital & Health Treatment	Medical Office, 2 Story	, ,		7,033	21.169	0	0	21,169	10.58
2	12 Public Buildings	Town Hall 2.3 Chan	۱ ،	21	989	9,641	0	0	9,641	4.82
13 Re	13 Religious	O	2	12	944	0	30.294	0	30.294	15.15
	Small.	Charge	₩.	24	529	0	0	42 274	720.00	13.13
2	14 Anusement	Movie Theatre	1	8	445	C		7/7/7	42,271	21.14
\$	15 Apartments/Assisted Living	Apartment, 1-3 Story	3	10	1 055	,	0	29.595	29,595	14.80
16 Misc.	%.	Average	2	2 :	CCO.1	21.169	0	0	21,169	10.58
			7	14	949	0	0	44,623	44,623	22.31
ag .	Stud properties Weight LB/LF	2	Wad	Wall properties		Wedgette of the	Weight of was parent			
ğ	3505162-43 1.14		3508	350516243			Carl (LDS)	5	UNK WR (LB/LF/FT HT)	Ē
Š	6005162-43 1.52		201000) i i i		7	100.32		2.01	

Unit weight (1' high, 1' long) is based on calculations using a section 8' height, 10' long, 16' o.c.

1.6 = the weight amplification factor to account for door/window operings, bracing, waste etc. Included in the above calculation.

Means commercial construction examples are typical of Dodge classifications

All exterior walls are steel framed

 LF of wall is used to determine amount of steel in example. Three size studs are used to approximate tons of steel.

3505162-43 studs are used in walls 12 feet high or less
600S162-43 studs are used for walls between 12 and 14 feet in height except for hotels and motels
600S162-54 studs are used for walls over 14 feet high

Assumptions

Interior Walls

Tons of steel in each Dodge Classification based on 100% steel interior walls

Dodge Segment	Means Class	Stories	Wall Height 15 Wall	I F Wall	% Interior	% Interior 1 F Int. Mon	عويسة وتمزعد		Steel in Wall	Wali	•
1					o meeno	C mr. wall	3505125-30	350\$125-33	3505162-33	Total (LBS)	Total (Tone)
1 Stores and Food Service	Restaurant, Fast Food	-1	10	257	40	103	918				femal man
	Store, Convenience	+ -1	12	257	4	103	1,102				
Awe	Average	+4	11	257	40	103	1.010			•	
2 Warehouses	Warehouse	1	24	703	25	176				1,010	0.51
3 Office and Bank Buildings	Office, 2-4 Story	· m ·	12	982	9	5,968		70 904	707'6	20107	2.55
	Bank	w-qud-	14	. 5 8	ွန	851		0	0 6		
Ave	Average	7	Ë	627	325	2.039		35 452	7.404	! "	•
4 Hotels & Motels	Motel, 2-3 Story	3	6	1,557	909	9.342	~	83 237	1,101	36,558	18.28
5 Garagos & Service Stations	Garage, Repair	1	14	406	25.	102	,	0		83,237	41.62
Garage, Service Statlon		1	12	152	25	8		7 7	1.720		
AVE	Average	-1	13	279	ĹŔ	2		164	0		
6 Manufacturing Plants	Factory		20	703	7,	178		777	700	1,086	0.54
7 Laboratories	Medical Office 1 Story	+							4,255	4,255	2.13
8 Schools & Colleges	Cohes to the	٠	2) A	8	1,699	15,183		معرر ا	15,183	7.58
	SCHOOL, Jr. High	2	12	1,905	0	7,619		90.514		90,514	45.26
Lucianes & Museums	Library	2	14	852	20	426			7,215	7.215	161
10 Dormitones	Apartment, 1-3 Story	ო	10	1.055	89	6,330	56.578			013 05	70.5
11 Hospital & Health Treatment	Medical Office, 2 Story	2	10	989	200	2 402	21 470			30,578	28.23
12 Public Buildings	Town Half, 2-3 Story	۲	1.0	3	3	**************************************	714.77			21,472	10.74
13 Religious	Chimb	,	71	3	3	2,662		67.266		67,266	33.63
14 Amicomont	I Dinio	4	74	523	ଜ	265			7,688	7,688	3.84
The second secon	1		20	445	ଚ	133			3,230	3.230	161
13 Apartments/Assisted Living	Apartment, 1-3 Story	3	10	1,055	9	6.330	56,578			56.578	20 20
16 MISC.	Average	~	14	949	250	2.373			301.00		40.23

Stud properties	Weight LB/JF	Wall properties		
350\$125-30	0.65		(LBS) Unit Wr (LB/LF/FT HT)	Ē
3505125.33	21.0	57.20	68.0	
200000000000000000000000000000000000000	0.12	50\$125-33	900	
3505162-33	0.88	3505162.33	66.0	
		PT-11	1.21	
		Unit weight (1' high, 1' long) is based on calculations using a section 8' height 10' long, 16" o.c.	Mt. 10' long, 16" o.c.	

Assumptions

1.25 = the weight amplification factor to account for door/window openings, bracing, waste etc. included in the above carculation. Means commercial construction examples are typical of Dodge classifications

All interior walls are steel framed

nterior wall percentages vs. exterior walls are assumed based on type of building.

Three size studs are used to approximate tons of steel.

LE of wall is used to determine amount of steel in example.
350S125-30 studs are used in walls mostly 12 feet high or less
350S125-33 studs are used for walls typically between 12 and 14 feet in height except for certain cases where thicker drywall studs are assumed.
350S162-33 studs are used for walls over 14 feet high

Floors

Tons of steel in each Dodge Classification based on 100% steel floors

Dodge Segment Mea 1 Stores and Food Service Rest Store, Convenience											
	Means Class	Stories	Total SF	Footprint	Width	Length	8005200-43	10005200-43	1000\$200-54	Total (LBS)	Total (Tons)
Store, Convenience	Restaurant, Fast Food	1	4,000	4.000	53	75	0			0	0.00
		H	4,000	4,000	53	75	0			0	0.00
Average			4,000	4.000	53	75	0		•	0	0.00
2 Warehouses War	Warehouse	+	30.000	30,000	145	506	0			0	00.0
3 Office and Bank Buildings Office	Office, 2-4 Story	e.	20,000	6.667	69	97				0	0.00
Bank	¥	1	4,100	4.100	Z	76	0			0	0.00
Average	e des de la production de	2	12,050	5.383	61	87		9.650		9,650	4.82
4 Hotels & Motels Mot	Motel, 2-3 Story	3	49,000	16,333	107	152			72,425	72.425	36.21
5 Garages & Service Stations Gara	Garage, Repair	1	10,000	10,000	Z	119	0			0	0.00
ueg	Garage, Service Station	Ħ	1.400	1,400	3.	45	0			0	0.00
Average		1	5.700	5,700	88	82	0			0	0.00
6 Manufacturing Plants Fact	Factory	н	30.000	30.000	145	308	0			0	0.00
7 Laboratories Med	Medical Office, 1 Story	1	7.000	7,000	2	100	0			0	0.00
8 Schools & Colleges Sch	School, Jr. High	2	110,000	55,000	197	279			120,135	120.135	60.07
9 Libraries & Museums Libra	Ubrary	2	22.000	11.000	88	125		19,666		19,666	9.83
10 Domitories Apa	Apartment, 1-3 Story	3	22,500	7,500	73	103		27.040		27,040	13.52
11 Hospital & Health Treatment Med	Medical Office, 2 Story	2	7.000	3,500	ß	70	5,575			5.575	2.79
12 Public Buildings Town	Iown Hall, 2-3 Story	3	18.000	6.000	65	92		21,753		21,753	10.88
13 Religious Chu	Church	1	17.000	17,000	110	155	0			0	0.00
	Movie Theatre	1	12,000	12,000	92	130	0			0	0.00
Apartments/Assisted Living	Apartment, 1-3 Story	3	22.500	7.500	73	103		27,040		27,040	13.52
16 Misc. Aver	Average	2	24,583	13,657	88	139		19,455		19,455	9.73

Welght LB/LF	1.98	2.29	2.86
Johst properties	8005200-43	1000820043	10005200-54

Assumptions

Means commercial construction examples are typical of Dodge classifications

 Three joist sizes are used to approximate tons of steet. All floor joists are steel framed

Width and length of building are used to determine amount of steel in each example.

8005200-43 joists are assumed in buildings with 50 foot widths or less
10005200-43 joists are assumed for buildings with 50-100 foot widths.
10005200-54 joists are assumed for buildings wider than 100 feet.

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Hass Stones Iotal SF Footprint ant, Fast Food 1 4.000 4.000 onvenience 1 4.000 4.000 se 1 4.000 4.000 se 1 4.000 4.000 se 1 30.000 30.000 se 1 4.000 4.000 se 1 30.000 4.000 se 1 4.100 4.100 se 1 4.100 4.100 Service Station 1 1.400 1.400 Service Station 1 1.000 1.000 Offfee. I Story 1 7.000 7.000 Jr. High 2 1.000 7.500 offfee. 2 Story 2 7.000 3.500 offfee. 2 Story 2 7.000 17,000 searce 1 17,000 17,000 service 2 1000 17,000 17,000 service <td< th=""><th>Footprint 4.000 4.000 4.000 30.000 6.667 4.100 5.383 16.333 10.000 1.400 5.700 30.000</th><th>Width Length 53 75 53 75 53 75 145 206 69 97 54 76 61 87 107 152 84 119 31 45 58 82 145 206 70 100 100 100</th><th>6,724 6,724 6,738</th><th>400S162-43 13.995 10.360 20.916 20.916</th><th>6005162-54 Total (LBS) Total (Tons)1 6.562 3.28 97,325 97,325 48.66 10.360 5.18 53.169 53,169 26.58</th><th>6.562 97.325 10.360 53,169</th><th>3.28 48.66 5.18 5.18 5.81</th></td<>	Footprint 4.000 4.000 4.000 30.000 6.667 4.100 5.383 16.333 10.000 1.400 5.700 30.000	Width Length 53 75 53 75 53 75 145 206 69 97 54 76 61 87 107 152 84 119 31 45 58 82 145 206 70 100 100 100	6,724 6,724 6,738	400S162-43 13.995 10.360 20.916 20.916	6005162-54 Total (LBS) Total (Tons)1 6.562 3.28 97,325 97,325 48.66 10.360 5.18 53.169 53,169 26.58	6.562 97.325 10.360 53,169	3.28 48.66 5.18 5.18 5.81
Average 1 4,000 4,000 Average 1 4,000 4,000 Average 1 4,000 4,000 Average 1 4,000 30,000 Average 1 30,000 30,000 Average 2 12,050 5,383 Average 2 12,050 5,383 Average 4,100 4,100 4,100 Average 2 12,050 5,383 Average 4,000 1,400 1,400 Average 1 1,000 1,000 School, Jr. High 2 10,000 1,000 School, Jr. High 2 1,000 1,000 Church 1 1,000 1,000 Church 1 <th>4.000 4.000 4.000 30.000 6.667 4.100 5.383 16.333 16.333 16.333 1.400 5.700 30.000</th> <th></th> <th>6,562</th> <th>13.995</th> <th>97.325</th> <th>6,562 97.325 10.360 53.169</th> <th>3.28 48.66 5.18 26.58</th>	4.000 4.000 4.000 30.000 6.667 4.100 5.383 16.333 16.333 16.333 1.400 5.700 30.000		6,562	13.995	97.325	6,562 97.325 10.360 53.169	3.28 48.66 5.18 26.58
Store. Convenience 1 4,000 4,000 verage 1 4,000 4,000 Warehouse 1 30,000 30,000 Office. 24 Story 3 20,000 6,667 Bank 1 4,100 4,100 Neerage 2 12,050 5,383 Motel. 2.3 Story 3 49,000 16,333 Is Garage. Repair 1 1,400 1,400 Average 1 30,000 10,000 Average 1 5,700 5,700 Average 1 30,000 7,000 Average 1 5,700 7,000 Average 1 30,000 7,000 Average 2 11,000 7,000 Apartment, 1.3 Story 2 22,500 7,500 Apartment 1 17,000 17,000 Church 1 17,000 17,000 Church 1 1 1,000 1	4.000 4.000 30.000 6.667 4.100 5.383 16.333 16.333 10.000 7.000		6,724	13.995 10.360 20.916	97,325	6.562 97.325 10.360 53,169	3.28 48.66 5.18 26.58
Verage 1 4,000 4,000 Warehouse 1 30,000 30,000 Office, 2-4 Story 3 20,000 6,667 Bank 1 4,100 4,100 Werage 2 12.050 5,383 Motel, 2-3 Story 3 49,000 16,333 Is Garage, Repair 1 1,400 1,400 Average 1 1,400 1,400 1,400 Average 1 1,000 1,400 2,700 Average 1 1,000 30,000 30,000 Average 1 1,000 1,000 30,000 Average 2 110,000 5,000 11,000 School, Jr. High 2 110,000 55,000 11,000 Library 2 1,000 1,000 11,000 Apartment Medical Office, 2 Story 2 22,500 1,000 Church 1 17,000 17,000 Abor	4,000 30,000 6,667 4,100 5,383 16,333 10,000 1,400 5,700 30,000		6,724	13.995 10.360 20.916	97,325	6.562 97.325 10.360 53.169	3.28 48.66 5.18 26.58 5.81
Warehouse 1 30,000 30,000 Office, 24 Story 3 20,000 6,667 Bank 1 4,100 4,100 Average 2 12,050 5,383 Motel, 2.3 Story 3 49,000 16,333 Is Garage, Repair 1 10,000 10,000 Average 1 1,400 1,400 1,400 Average 1 30,000 30,000 1,400 Average 1 30,000 30,000 1,400 Average 1 30,000 30,000 1,000 Average 1 30,000 7,000 2,000 Library 2 10,000 7,500 1,500 Adartment, 1,3 Story 2 7,000 3,500 Church 1 17,000 17,000 Church 1 12,000 17,000 Abartment, 1,3 Story 3 18,000 6,000 Church 1 12,000 <td>30,000 6,667 4,100 5,383 16,333 10,000 1,400 5,700 30,000</td> <td></td> <td>6,724</td> <td>13.995 10,360 20.916</td> <td>97,325</td> <td>97.325</td> <td>5.18 26.58 5.81</td>	30,000 6,667 4,100 5,383 16,333 10,000 1,400 5,700 30,000		6,724	13.995 10,360 20.916	97,325	97.325	5.18 26.58 5.81
Werage 1 4.100 4,100 Werage 2 12.050 5,383 Motel. 2-3 Story 3 49,000 16,333 Is Garage. Repair 1 10.000 10,000 Average Eactory 1 1,400 1,400 Average Eactory 1 5,700 5,700 Average 1 30,000 30,000 Average 1 5,700 5,700 Library 2 110,000 5,000 Library 2 11,000 55,000 Library 2 1,000 5,000 Apartment, 1.3 Story 3 22,500 1,000 Church 1 17,000 17,000 Mowe Theatre 1 12,000 17,000 Living Apartment, 1.3 Story 3 12,500 17,000 Living Apartment, 1.3 Story 3 22,500 7,500	6.667 4.100 5.383 16.333 10.000 1.400 5.700 7.000		6.724	13.995	53.169	10,360	5.18 26.58 26.58
Bank 1 4.100 4,100 erage 2 12.050 5,383 Motel. 2.3 Story 3 49,000 16,333 Garage. Repair 1 10,000 10,000 erage 1 1,400 1,400 erage 1 5,700 5,700 erage 1 30,000 30,000 Medical Office. 1 Story 1 7,000 7,000 School, Jr. High 2 110,000 55,000 Library 2 22,000 11,000 Apartment, 1.3 Story 2 7,000 5,500 Immut Medical Office. 2 Story 2 7,000 5,500 Inchrich 1 17,000 17,000 Mowie Theatre 1 12,000 17,000 Mowie Theatre 1 12,000 7,500	5.383 16.333 10.000 1.400 5.700 7.000		6,724	10.360 20.916 11.627	53.169	10,360	5.18 26.58 5.81
Motel. 2.3 Stary 3 49,000 16,333 Garage. Repair 1 10,000 10,000 Garage. Service Station 1 1,400 1,400 Factory 1 30,000 30,000 Medical Office. 1 Story 1 30,000 55,000 Library 2 22,000 11,000 Apartment. 1.3 Story 3 22,500 17,000 Town Hall. 2.3 Story 3 18,000 6,000 Church 1 17,000 17,000 Mowe Theatre 1 12,000 17	5.383 16.333 10.000 1.400 5.700 30.000 7.000		2,338	20.916	53.169	10,360 53,169	5.18 26.58
Garage. Repair 1 10,000 16,333 erage Garage. Service Station 1 1,400 1,400 erage 1 5,700 5,700 5,700 Actory 1 30,000 30,000 Medical Office. 1 Story 1 7,000 7,000 School. Jr. High 2 110,000 55,000 Library 2 22,000 11,000 Apartment. 1-3 Story 3 22,500 7,500 ment Medical Office. 2 Story 2 7,000 3,500 Church 1 17,000 17,000 Mowie Theatre 1 12,000 17,000 Mowie Theatre 1 12,000 7,500	16.333 10.000 1.400 5.700 30.000 7.000		2,338	20.916	53.169	53,169	26.58
Garage. Repair 1 10,000 10,000 erage Service Station 1 1,400 1,400 Factory 1 5,700 5,700 Medical Office. 1 Story 1 30,000 7,000 School. Jr. High 2 110,000 55,000 Library 2 22,000 11,000 Apartment. 1.3 Story 3 22,500 7,500 ment Medical Office. 2 Story 2 7,000 3,500 Town Hall, 2.3 Story 3 18,000 6,000 Church 1 17,000 17,000 Mowle Theatre 1 12,000 12,000 wing Apartment. 1.3 Story 3 22,500 7,500	10,000 1,400 5,700 30,000 7,000		2,338	20.916			5.81
Average 1 1,400 1,400 Average 1 5,700 5,700 Factory 1 30,000 30,000 Medical Office. 1 Story 1 7,000 7,000 School, Jr. High 2 110,000 55,000 Library 2 22,000 11,000 Apartment, 1.3 Story 3 22,500 7,500 Inwrn Hall, 2.3 Story 2 7,000 3,500 Church 1 17,000 17,000 Sted Living Apartment, 1.3 Story 3 22,500 7,500 Sted Living Apartment, 1.3 Story 3 22,500 7,500	1.400 5.700 30.000 7.000		2,338	11.627			5.81
Average 1 5.700 5.700 Factory 1 30,000 30,000 Medical Office. 1 Story 1 7,000 7,000 School, Jr. High 2 110,000 55,000 Library 2 22,000 11,000 Apartment, 1.3 Story 3 22,500 7,500 Treatment Medical Office, 2 Story 2 7,000 3,500 I fown Hall, 2.3 Story 3 18,000 6,000 Church 1 17,000 17,000 Mowie Theatre 1 12,000 12,000 sted Living Apartment, 1.3 Story 3 22,500 7,500	30,000			11,627			5.81
Factory 1 30,000 30,000 30,000 Medical Office. 1 Story 1 7,000 7,000 5,000 School, Jr. High 2 110,000 55,000 11,000 Apartment, 1.3 Story 3 22,500 7,500 7,500 1,000	30,000					11,627	
aboratorles Medical Office. 1 Story 1 7,000 chools & Colleges School, Jr. High 2 110,000 ibranes & Museums Library 2 22,000 Dormitories Apartment, 1.3 Story 3 22,500 Hospital & Health Treatment Medical Office, 2 Story 2 7,000 Public Buildings Fown Hall, 2.3 Story 3 18,000 Religious Church 1 17,000 Amusement Mowie Theatre 1 12,000 Apartments/Assisted Living Apartment, 1.3 Story 3 22,500					97.325	97,325	48.66
Cchools & Colleges School, Jr. High 2 110,000 ibranes & Museums Library 2 22,000 Dormitories Apartment, 1.3 Story 3 22,500 Hospital & Health Treatment Medical Office, 2 Story 2 7,000 Public Buildings Town Hall, 2.3 Story 3 18,000 Religious Church 1 17,000 Amusement Movie Theatre 1 12,000 Apartments/Assisted Living Apartment, 1.3 Story 3 22,500				14,688		14.688	7.34
Bormitories Library 2 22.000 Dormitories Apartment, 1.3 Story 3 22.500 Hospital & Health Treatment Medical Office, 2 Story 2 7.000 Public Buildings Fown Hall, 2.3 Story 3 18.000 Religious Church 1 17.000 Amusement Movie Theatre 1 12.000 Apartments/Assisted Living Apartment, 1.3 Story 3 22,500		197 279			177,981	177,981	88.99
Dormitories Apartment, 1-3 Story 3 22,500 Hospital & Health Treatment Medical Office, 2 Story 2 7,000 Public Buildings Town Half, 2-3 Story 3 18,000 Religious Church 1 17,000 Amusement Movie Theatre 1 12,000 Apartments/Assisted Living Apartment, 1-3 Story 3 22,500		88 125		22,989		22,989	11.49
Hospital & Health Treatment Medical Office. 2 Story 2 7.000 Public Buildings Fown Hall, 2-3 Story 3 18.000 Religious Church 1 17.000 Amusement Movie Theatre 1 12.000 Apartments/Assisted Living Apartment, 1-3 Story 3 22,500		73 103		15,727		15,727	7.86
Public Buildings Town Hall, 2-3 Story 3 18,000 Religious Church 1 17,000 Amusement Movie Theatre 1 12,000 Apartments/Assisted Living Apartment, 1-3 Story 3 22,500		50 70	5,752			5.752	2.88
Religious Church 1 17,000 Amusement Movie Theatre 1 12,000 Apartments/Assisted Living Apartment, 1.3 Story 3 22,500		65 92		12,610		12,610	6,30
Amusement Movie Theatre 1 12,000 Apartments/Assisted Living Apartment, 1-3 Story 3 22,500		110 155			55,325	55,325	27.66
Apartments/Assisted Living Apartment, 1-3 Story 3 22,500		92 130		25,063		25,063	12.53
Mich		73 103		15.727	Average and the state of the st	15,727	7.86
MISS. AVERAGE 2 24,583	583 13,657	98 139		28,497		28,497	14.25
Truss C-stud properties Weight LB/LF Truss Profiles Weight/LI	Wolght/LF Truss	FTruss					
4005162-33 0.94 4005162-33 3.196	3.196						
	4.114		٠				
600\$162-54 1.89 600\$162-54 6.426	6.426						

Assumptions

All roofs are steel framed

Means commercial construction examples are typical of Dodge classifications

Assuming a 20 foot truss, 4:12 pitch

A standard 4:12 roof truss is assumed in all cases for simplicity

Three size studs are used to approximate tons of steel.
 Width and length of building is used to determine amount of steel in example.

400S162:33 studs are used in buildings up to 60 feet wide 400S162-43 studs are used for buildings between 60 and 100 feet wide 600S162-54 studs are used for buildings over 100 feet wide.

Tons of Steel in One Building for Each Dodge Classification

Tons of Steel in Each Dodge Classification Using No. of Units From 2002 Data

	Dodge Segment Ex	derior Walls	Exterior Walls Interior Walls Floors Roofs	Hoors	Roofs	Dodge Segment	Exterior Walls Interior Walls	Interior Walls	Floors	Roofs	Totals
-	Stores and Food Service	2.83	0.51	0.00	3.28	1 Stores and Food Service	179.171	31,925	0	207.406	418,501
2	Warehouses	28.08	2.55	0.00	48.66	2 Warehouses	183,264	16,666	0	317.635	517,565
8	Office and Bank Buildings	11.01	18.28	4.82	5.18	3 Office and Bank Buildings	137,480	228,205	60,245	64,676	490,605
4	Hotels & Motels	18.74	41.62	36.21	26.58	4 Hotels & Motels	15.070	33,461	29,115	21,374	99,020
ស	Garages & Service Stations	5.95	0.54	0.00	5.81	5 Garages & Service Stations	163,725	14,942	0	160.034	338.702
9	Manufacturing Plants	23.40	2.13	0.00	48.66	6 Manufacturing Plants	40,695	3,701	0	84.640	129,037
7	Laboratories	3.41	7.59	0.00	7.34	7 Laboratories	7.821	17.418	0	16.850	42,089
œ	Schools & Colleges	30.57	45.26	60.07	88.99	8 Schools & Colleges	63,329	93,744	124,422	184,332	465,826
6	Libraries & Museums	19.83	3.61	9.83	11.49	9 Libraries & Museums	11,613	2,112	5,757	6,730	26,213
ន	Dormitories	10.58	28.29	13.52	7.86	10 Dormitories	10,853	29,007	13,863	8,063	61.786
=	Hospital & Health Treatment	1 4.82	10.74	2.79	2.88	11 Hospital & Health Treatment	66,492	148,094	38,449	39,670	292,706
2	Public Buildings	15.15	33.63	10.88	6.30	12 Public Buildings	30.766	68,314	22,092	12,806	133,978
13	Religious	21.14	3.84	0.00	27.66	13 Religious	63,587	11,565	0	83,225	158.377
14	Amusement	14.80	1.61	0.00	12.53	14 Amusement	86,384	9,427	0	73,153	168,964
15	Apartments/Assisted Living	10.58	28.29	13.52	7.86	15 Apartments/Assisted Living	185,350	495,385	236,757	137,701	1,055,193
16	Misc.	22.31	20.29	9.73	14.25	16 Misc.	22,351	20,326	9,745	14,274	66,696
						Totals	1,267,953	1,224,291	540.445	1,432,569	4,465,258
						THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON			-		

Market Share Factors (Realistic Percentage of Buildings that used LGS in 2002)

Ž	Dodge Segment Ex	Exterior Walls	Interior Walls	Floors	Roofs	Totals
	Stores and Food Service	45%	81%	8	86	29%
	Warehouses	46%	81%	Š	ð	19%
	Office and Bank Buildings	47%	81%	10%	%	53%
- 1	Hotels & Motels	39%	81%	10%	% 88	38%
	Garages & Service Stations	45%	81%	క	10%	30%
	Manufacturing Plants	62%	81%	8	క	22%
	Laboratones	%	81%	క	86	45%
	Schools & Colleges	39%	81%	10%	4%	26%
6	Libraries & Museums	30%	81%	දී	ĸ	23%
10	Dormitories	39%	81%	15%	36	49%
11	Hospital & Health Treatment	*44	81%	10%	48	53%
7	Public Buildings	49%	81%	ğ	క	53%
13	Religious	43%	81%	ž	Š	23%
4	Amusement	49%	81%	10%	క	30%
15	Apartments/Assisted Living	50%	81%	18%	10%	52%
16	Misc.	49%	81%	10%	4 %	43%
	Totals	47%	81%	13%	4%	38%
		-		-	***************************************	-

Market (2002) in Tons After Applying Factors

s Roofs Totals Dodge Segment Exterior Walls	Dodge Segment Exterior Walls	Exterior Walls	Exterior Walls	xterior Walls Int	Ĕ	Interior Walls	Floors	Roofs	Totals
0% 8% 29% 1 Stores and Food Service 80,627	1 Stores and Food Service			80,627		25,838	0	16,592	123,057
0% 0% 19% 2 Warehouses 84,445	2 Warehouses			84,445		13,488	0	0	97.933
10% 8% 53% 3 Office and Bank Buildings 64,616	3 Office and Bank Buildings			64,616		184,693	6,024	5,174	260,507
10% 8% 38% 4 Hotels & Motels 5,877	4 Hotels & Motels			5,877	1	27,081	2,911	1.710	37,580
0% 10% 30% 5 Garages & Service Stations 73,676	30% 5 Garages & Service Stations	Garages & Service Stations	M	73,676		12,093	0	16,003	101.773
0% 0% 22% 6 Manufacturing Plants 25,231	6 Manufacturing Plants	Manufacturing Plants		25,231		2.995	0	0	28.226
0% 6% 45% 7 Laboratories 3,910	7 Laboratories			3,910		14,097	0	1,011	19.019
10% 4% 26% 8 Schools & Colleges 24,698	8 Schools & Colleges	Schools & Colleges		24,698	1	75,870	12,442	7,373	120,383
0% 2% 29% 9 Libraries & Museums 5,807	9 Libraries & Museums	Libraries & Museums		5,807		1,709	0	135	7.651
15% 6% 49% 10 Dormitories 4,233	10 Dormitories	Dormitories		4,233		23,476	2,079	484	30.272
10% 4% 53% 11 Hospital & Health Treatment 29,256	11 Hospital & Health Treatment	Hospital & Health Treatment		29.256	l	119,857	3,845	1.587	154,546
0% 0% 53% 12 Public Buildings 15,076	12 Public Buildings	Public Buildings		15,076	1	55,288	0	0	70,364
0% 0% 23% 13 Religious 27,343	13 Religious	Religious		27,343	1	9,360	0	0	36,703
10% 0% 30% 14 Amusement 42,328	14 Amusement	Amusement		42,328		7.629	0	0	49,957
18% 10% 52% 15 Apartments/Assisted Living 92,675	52% 15 Apartments/Assisted Living	Apartments/Assisted Living		92,675	1	400,930	42,616	13,770	549,992
10% 4% 43% 16 Misc. 10.952	16 Misc.	Misc.	Misc.	10,952		16.450	974	571	28,948
13% 4% 38% Totals 590,750	Totals			590,750		990,857	70.893	64,410	1,716.911
Company of the state of the sta						•			

Value of Steel Sheet Using Factored Ton Numbers Immediately Above

		\$23.5/CWT	(AM	(AMM December 2002)						
Dodge Segment		Exterior Walls		Interior Walls	٠.	Poors		Roofs		Totals
1 Stores and Food Service	•	37,894,589	8	12.143,653	40		8	7.798.463	S	57,836,705
2 Warehouses	s	39,689,266	\$	6,339,467	S		8	•	8	46,028,732
3 Office and Bank Buildings	\$	30,369,371	₩	86,805,714	4	2,831.504	\$	2,431,806	8	\$ 122,438,396
4 Hotels & Motels	4	2.762,319	S	12,728,158	~	1,368,390	S	803,658	8	17,662,526
5 Garages & Service Stations	S	34.627,910	•	5.683,719	\$		\$	7,521,608	8	47.833,237
6 Manufacturing Plants	\$	11.858,653	•	1,407,734	•		54		8	13,266,387
7 Laboratories	•	1,837.836	4	6,625,696	*		*	475,182	5	8.938,715
8 Schools & Colleges	\$	11,608,218	so.	35,658,742	8	5,847,836	5	3,465,434	49	56,580,229
9 Libraries & Museums	S	2,729,113	50	803,449	8	*	\$	63,263	5	3.595,826
10 Dormitories	\$	1,989,361	59	11,033,797	8	977,351	8	227,375	8	14,227,884
11 Hospital & Health Treatment	4	13,750,554	9	56,332.911	8	1,807,121	\$	745,802	8	72,636,388
12 Public Buildings	S	7,085,521	\$	25,985,557	4		\$		\$	33,071,078
13 Religious	•	12,851.006	50	4,399,220	9		\$		8	17.250,227
14 Amusement	49	19,894,188	8	3,585,820	S		5		8	23.480,008
15 Apartments/Assisted Living	14	43,557,305	4	188,437,318	₩.	20,029,670	S	6,471,924	~	\$ 258,496,218
16 Misc.	6	5,147,493	•	7,731.731	w	458,002	8	268,349	8	13,605,575
Totals	S	\$ 277,652,705	4	465,702,686	s	\$ 33,319,875	\$	\$ 30,272,865	8	\$ 806,948,130



	Structural	Non-Structural	Total
Opportunity - 2002	3,240,967	1,224,291	4,465,258
SSMA Shipments - 2002	621,500	820,000	1,441,500
SSMA Estimated Share - 2002	75.0%	75.0%	75.0%
Industry Shipments - 2002	828,667	1,093.333	1,922,000
Residential Market - 2002	102,613	102,477	205,090
Nonresidential Market - 2002	726,053	990,857	1,716,910
Market - 2002 (from above)	726,054	990,857	1,716,911
Marketshare - 2002	22.40%	80.93%	38.45%

Nonresidential Steel Framing Market

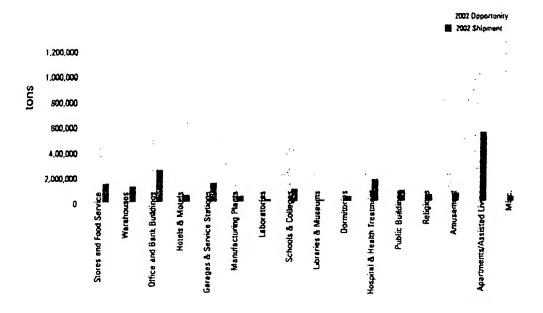


EXHIBIT B

Exhibit B

Market (2002) in Tons After Applying Factors

				
Dodge Segment	Interior Walls (Tons)	Interior Walls (LBS)	LBS/Lin- Ft	Lin-Ft
Stores and Food Service	25,838	51,676,000	0.65	79,501,538
Warehouses	13, 188	26,976,000	0.88	30,654,545
Office and Bank Buildings	184,693	369,386,000	0.88	419,756,818
Hotels & Motels	27,081	54,162,000	0.72	75,225,000
Garages & Service Stations	12,093	24,186,000	0.88	27,484,091
Manufacturing Plants	2,995	5,990,000	0.88	6,806,818
Laboratories	14,097	28,194,000	0.65	43,375,385
Schoola & Colleges	75,870	151,740,000	0.72	210,750,000
Libraries & Museums	1,709	3,418,000	0.88	3,884,091
Domit lites	23,476	46,952,000	0.65	72,233,846
Hospit, I & Health Treath ent	119,857	239,714,000	0.65	368,790,769
Publi Bullängs	55,288	110,576,000	0.72	153,577,778
Religious	9,360	18,720,000	0.88	21,272,727
Amusement	7,629	15,258,000	0.88	17,338,636
Aparti vints/Assisted Lizing	400,930	801,860,000	0.65	1,233,630,769
blist.	16,450	32,900,000	0.88	37,386,364
Totals	990,854	1,981,708,000		2,801,669,176
	Stores and Food Service Warehouses Office and Bank Buildings Hotels & Hotels Garages & Service Stations Manufacturing Plants Laboratories Schools & Colleges Labranas & Museums Dorms tres Hospit, I & Health Tream and Public Buildings Religious Amusement Aparts ants/Assisted Lizing Misc.	Stores and Food Service 25,838 Warehouses 13,488 Office and Bank Buildings 184,693 Hotels & Hotels 27,081 Garages & Service 12,093 Stations 14,097 Schools & Colleges 75,870 Laboratories 14,097 Schools & Colleges 75,870 Laboratories 1,709 Domit tries 23,476 Hospit, I & Health 119,857 Public Buildings 55,288 Religious 9,360 Amusement 7,629 Aparts emis/Assisted 400,930 Misc. 16,450	Stores and Food Service 25,838 51,676,000 Warehouses 13,488 26,976,000 Office and Bank 184,693 369,386,000 Buildings 12,093 24,162,000 Stations 12,093 24,186,000 Eaboratories 14,097 28,194,000 Eaboratories 14,097 28,194,000 Eaboratories 1,709 3,418,000 Eaboratories 1,709 3,418,000 Eaboratories 23,476 46,952,000 Eaboratories 23,476 46,952,000 Eaboratories 119,857 239,714,000 Eaboratories 23,476 46,952,000 Eaboratories 23,476 Eaboratories 23,476 Eaboratories 23,476 Eabo	Stores and Food Service 25,838 51,676,000 0.65

- Weights (lbs/lineal Ft) are from Page 9 of Exhibit A
- Conversion of Tons to lbs is based on 2000 lbs per ton

EXHIBIT C

Exhibit C

Derivations of Weight per Foot (interior wall)

These factors would be summarized in the following equation:

Width of Blank (inches) x Thickness of Blank (inches) x Length of Blank (inches) x Conversion Factor (lbs/Cubic inch) = lbs/lineal Ft

Existing Technology

Width of Blank = 6.5in Thickness of Blank = .015 in Length · 12 in

Conversion Factor = .283 lbs/eu in

.331 lbs/lineal Ft

Proposed Patent Technology

Width of Blank = 4.1 in Thickness of Blank = .015 in Length = 12 in

Conversion Factor = .283 lbs/cu in

.209 lbs/lineal Ft

Material Savings – lbs/lineal Ft

.331 lb/lineal Ft - .209 lbs/lineal Ft = .122 lb/lineal Ft

% Material Savings

 $((.331-.209), .331) \times 100 = 37\%$

EXHIBIT D

* AMM Steel Base Prices



STAINLESS STEELS			TOOL STEELS Estimated market prices per lb, f.o.b. milt or ware-				
extra ch	prices, f.o.b. mill, by grade, not larges for size, finish, temper, p g and other specifications.			COLD WOR	e effective (8/23/0	
Diata N	COILED PLATE roduced on a continuous mill.				arb free)		
Grade	COUCES OF A CONTRIBUTE HILL.	\$/cwt	Grade	Shape	Stre		Price
304		220.01	A-2	Flat	1/2"x1"	\$3.5	0-\$4.00
304L		223.01	A-2	Flat	3°x4°		\$3.25
316		338.61	D-2	Round	20"		\$3.20
316L		341.61		HOT WORL		LS	
3 100	UNCOILED PLATE	341.01		(deca	arb free)		
Plate pi	oduced on a plate mill.		Grade				Price
Grade		Newt	H-14 (2")				NA
304		283.91	H-13, 2-ln				\$3.00
304L		287.01	O-2 flat be				\$3.75
309		NA	H-13 roun	d bar			NA
310		NA		SH	EETS		
316L		428.91	Market ne	ces per hund	enduminant (a b m	in for
BAR				and cold-rolls		.Q.D. III	111, 1137
	-turned round bar, 1" diameter,	mostly in	1101-1000		LED SHEE	т	
10,000-	lb quantities.		Midwest	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		•	\$26.50
Grade		8/cwt		COLD-ROL	LED (Class	0.0	020.00
303		262.63	Midwest	00	,	,	\$31.50
304		263.20		T-DIPPED Q	AL VANIZED	RHFI	—
316		378.21	Midwast				\$39,00
416		137.89	11	GALVALI	TWE SHEE	r '	
17Cr4N	1	284.00	Midwest	07.277.2			\$43.00
	COLD-ROLLED SHEET			LECTROGAL	VANIZED S	MPPT	
Grade		\$/cwt	Michanat	LCOINDUN			\$41.00
301		116.00	MINOWOLL	AT HIMINE	ZED SHEET	r	44 1.00
302 -		126.00	Midwest	APORINE.		•	
304		228.01	Type 1				\$44.50
304L		231.01		MAL ROTOR	NATION RI	HPFT	J-1.50
316L		352.61	Midwest	NO TON LONG	1177,1011 01	166	\$31.50
	COLD-ROLLED STRIP		MOST				VO 1.00
Grade		\$/cwt			'IN		
304L		248.01		Single-reduce	d, per base	bent;	
316L		363.01		Mill list prices			
	t available		Electrolytic			,	\$85.45

Notice

The rapid increase in zinc prices has created some confusion in the market related to hot-dip galvanized sheet pricing, prompting AMM to modify its reporting of this price. The AMM price for hot-dip galvanized sheet represents a base price plus a G90 coating on material 0.040 inch (1 millimeter) thick.

			071110	ı
Market	prices	per	hundredweight, f. o. b. mill.	
	M	ER	CHANT PRODUCTS	
			(base prices)	

\$29.00
\$33.35
\$33.80
\$37.15
833.55
\$45.50
\$49.00
\$73.00

HOT-	ROI	LED
(apecial	bar	quality

1" round, 1000 series (carbon)	\$35.00
1" round, 4100 series (alloy)	\$48.50
ROD	

KUD	
Market prices per hundredweight, o	felivered.
Mash quality low carbon	\$28.00
Industrial quality low corbon	\$30.00
High carbon	\$31.50
Cold-heading quality	\$33.00

PLATE Market prices per hundredweight, I.o.b. mill.

CARBON GR	AUE PLATE
National miles	
Cut-to-length	\$38.00-\$41.00
Colled	\$38.00-\$41.00
STRIP MII	L PLATE
48-inches	\$26,50
60-Inches	\$26.50
72-Inches	\$26.50

ALLOY PLATE \$68 00-\$85 00 BAPETY PLATE

(also known as floor pists) National mills
NA-Not available \$53.00

IMPORT PRICES

Slab	\$500
Rebar	\$540-\$560
Wire Rod (low carbon)	\$600
Merchant Bar	\$620-\$630
Medium Sections	\$600-\$620
Heavy Sections (over 24 inches)	\$750-\$760
HR Coll (commodity)	\$520
Heavy Plate	\$840-\$860
Medium Plate	\$720-\$740
CR Coll	\$600
US Mill fob (Midwest)	
HR coll	\$520-\$530
CR coll	\$620
Hot-Din Gohanhard coll	\$78A

OIL COUNTRY TUBULAR GOODS

verage monthly market prices per ton from distributors surveyed in the Houston area by Pipe Logix, Inc.

	Aug.	July	Percent
TUBINO	\$/ton	\$/ton	Change
Carbon-annealed ERW	\$1,272	\$1.287	-1.2
Carbon—seamless	\$1,480	\$1,483	-0.2
N80- ERW	\$1,658	\$1,646	0.8
N80- seamless	\$1,799	\$1,791	0.4
CASING			
Carbon-annealed ERW	\$1,079	\$1,094	-1.3
Carbon-seamless	\$1,238	\$1,270	-2.5
N80- ERW	\$1,438	\$1,438	-07
N80- seamless	\$1,508	\$1,551	2.9
Colling his faibling to be it Mindale	nice ainmainteen inn tha Pitt.	HA Chian tion 8' Chait Delai	a biological

SteelBenchmarker Pricing (dollars per tonne) **United States** World Export Market China 650 Hot-Roll Band Hot-Roll Band \$610 \$555 \$618 \$566 \$517 560 Oa. 23 Aug. 27 Oct. 23 Aug. 27 April 10 Oct. 23 Aug. 27 800 725 \$56 \$708 Cold-Roll Coll Cold-Roll Coll Cold-Roll Coll \$547 \$628 \$858 \$592 Oct. 23 Aug. 27 April 10 Aug. 27 Of IngA April 10 Oct. 23 Aug. 27 410 StaciBenchmarker is a joint venture of World Steel Dynamics Inc. and AMMMetal Bulletin that was officially launched in April 2006. Prices are published twice monthly. elBenchmarker is designed to provide a reliable set of bonchmark prices for use by participants in the steel industry and others without requiring disclosure of actual transaction prices. To participate as a price opinion provider (price opinion inputs go directly to an independent third-party computer system), please register at http://www.ntrim.com/benchinonict Note: Prices for the United States are f.o.b. mill, east of Mississipply China is ex-works; and World Export Market is f.o.b. port of export. Source: World Steel Dynamics Inc., Englewood Cliffs, N.J. Aug. 27 April 10

EXHIBIT E

Exhibit E

Derivation of Material Savings

These factors would be summarized in the following equation:

Weight of material required to manufacture 1 foot-

Estimated market value

0.331 lb/lineal-foot
0.209 lb/lineal-foot
0.122 lb/lineal-foot
<u>\$0.39</u> per pound
.0475 per foot
2,800,000,000 feet/year

133,000,000 / year